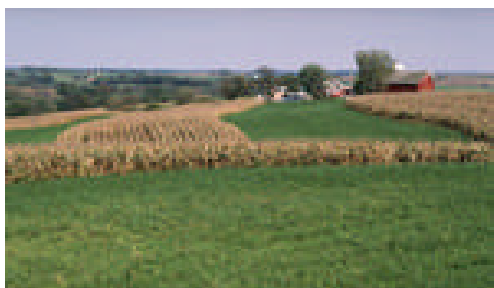


INTRODUCTION



Agriculture is Tennessee's largest industry. Tennessee farmers are stewards of the lands they farm, because their livelihood depends on it. Net income from farming operations in Tennessee totaled \$343.3 million dollars in 1998. Forty-four percent of the land area of Tennessee is farmland, comprising 11.9 million acres (1998 figures). There are water quality problems associated with some agricultural operations.

Excessive soil erosion from row crop land, animal waste generated from Concentrated Animal Feeding Operations (CAFOs), livestock access to streams, improper grazing practices, and excessive pesticide usage are some of the problems that need to be addressed.

DESCRIPTION

In 1998, there were an estimated 91,000 farms in Tennessee. A farm is defined, for purposes of this chapter, as a place which could sell \$1,000 dollars of agricultural products annually. The following table lists the 1998 national ranking of Tennessee's agricultural production:

CROP	1998 National Ranking	Production
Corn for Grain	18	59,520,000 bu
Cotton	10	546,000 bales
Sorghum for Grain	14	1,120,000 bu
Soybeans	17	35,090,000 bu
Tobacco	3	111,100,000 pounds
Winter Wheat	20	15,170,000 bu
Beef Cows	9	1,030,000 head
Milk Cows	22	100,000 head
Market Hogs	22	260,000 head
Poultry (Broilers)	Not available	159,200,000 birds
Equine	3	190,000 head

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Agricultural production varies geographically across Tennessee. The following table lists the top ten producing counties for each of the crops listed, and the grand division of the state they are located.

Rank	Corn	Cotton	Soybeans	Tobacco	Wheat
1	✚Obion	✚Haywood	✚Gibson	●Robertson	✚Gibson
2	✚Weakley	✚Crockett	✚Dyer	◆Greene	✚Obion
3	✚Gibson	✚Tipton	✚Obion	●Montgomery	✚Dyer
4	●Robertson	✚Fayette	✚Weakley	●Macon	✚Weakley
5	✚Henry	✚Lauderdale	✚Lauderdale	◆Claiborne	●Robertson
6	✚Dyer	✚Gibson	✚Tipton	●Sumner	✚Lake
7	✚Carroll	✚Madison	✚Shelby	◆Washington	✚Henry
8	●Franklin	✚Dyer	✚Lake	◆Hawkins	✚Lauderdale
9	●Montgomery	✚Shelby	✚Fayette	◆Grainger	●Franklin
10	✚Lauderdale	✚Hardeman	✚Haywood	●Smith	✚Tipton
Rank	Beef Cows	Milk Cows	All Hogs	Alfalfa Hay	All Other Hay
1	◆Greene	◆Greene	✚Weakley	●Robertson	◆Greene
2	●Lincoln	◆McMinn	✚Henry	◆Greene	●Lincoln
3	●Maury	◆Washington	✚Fayette	◆Washington	●Maury
4	●Giles	◆Monroe	✚Obion	●Maury	●Williamson
5	●Wilson	●Marshall	●Franklin	●Marshall	●Giles
6	●Lawrence	●Lincoln	✚Madison	◆Sullivan	●Bedford
7	●Bedford	◆Loudon	✚McNairy	●Sumner	◆Washington
8	●Williamson	●Robertson	✚Henderson	●Rutherford	●Robertson
9	◆Washington	●Bedford	●Giles	●Williamson	●Wilson
10	●Robertson	●Lawrence	✚Gibson	●Giles	●Sumner
		✚ West	●Middle	◆East	

EXTENT OF PROBLEM

Tennessee's 1998, 303(d) List has identified 352 waterbodies that do not fully support all of their designated uses. Of this number, 133, or 38% of the total number of waterbodies are impaired by agricultural activities. The 1998 303(d) List has identified these activities by the use of the following terms:

Agriculture
Animal Feeding Areas
Animal Holding Areas
Concentrated Animal Feeding Operations
Crop Production

Non-Irrigated Crop Production
Pasture/Grazing
Pastureland
Specialty Crop Production

SOLUTIONS

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Water quality problems associated with agricultural operations are solved by the installation of appropriate best management practices (BMPs). Measurable water quality improvements are most likely to occur in smaller watersheds, where BMPs have been clustered together, or in a larger watershed where a large percentage of the landowners needing BMPs have had them installed. Additionally, programs that place tracts of land in long-term easements are very beneficial to the water quality of the watershed. In order to develop statewide strategies, an agricultural working group will be formed and will be comprised of representatives of the following list of partnering agencies and local groups. Interested citizens will also be encouraged to participate.

In the FY98 grant, the TDA-NPS Program began the Grant Pool project. This project focuses resources toward agricultural BMPs within 1998 303(d) listed watersheds. The goal of the grant pool project is to identify the causes of impairment within a watershed and install all BMPs necessary to fix the problems, so stream segments can be removed from the 1998 303(d) List.

The solution to problems associated with CAFOs is the NPDES permitting process, which requires all CAFOs of a certain size to obtain a permit. This permit requires that all CAFOs have a properly designed waste handling system and a nutrient management plan for their operation.

COOPERATING PARTNERS**Partners****Abbreviation**

Commodity Groups	
Livestock Associations	
State Soil Conservation Committee	SSCC
Soil Conservation Districts (all 95 counties)	SCD
Tennessee Association of Conservation Districts	TACD
Tennessee Department of Agriculture	TDA
Agricultural Resources Conservation Fund	-ARC
Tennessee Department of Environment and Conservation	TDEC
Division of Water Pollution Control	-WPC
Tennessee Resource Conservation and Development Councils	TNRC&D
Tennessee Farm Bureau	TFB
Tennessee Valley Authority	TVA
Tennessee Wildlife Resources Agency	TWRA
The Nature Conservancy	TNC
USDA - Natural Resources Conservation Service	NRCS
USDA - Farm Services Agency	FSA
University of Tennessee - Institute of Agriculture	UTIA

Commodity Groups

The producers of agricultural products, in addition to livestock, associate together in an effort to maximize efficiency and expand their businesses, and to promote agricultural awareness among the general public. These groups need to be targeted by the TDA-NPS Program as a gateway to producers. The following is a partial listing of these groups:

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Agricultural Production Association of Tennessee
Burley Stabilization Corporation
Feed and Grain Association of Tennessee
Fruit and Vegetable Growers Association of Tennessee
Nursery Association of Middle Tennessee
No-Till Farmers Association of West Tennessee
Nursery and Landscape Association Inc.
Soybean Promotion Board of Tennessee
Specialty Foods Association
Viticulture and Oenological Society of Tennessee

Livestock Associations

There are several organizations in Tennessee that livestock producers associate with that will be a target for educational efforts. These associations have members that own lands where BMPs could be needed. The following is a partial listing of these groups:

Beef Industry Council of Tennessee
Tennessee Cattlemen's Association
Dairy Products Association of Tennessee
Egg and Poultry Association of Tennessee
Forage and Grassland Council of Tennessee
Livestock Marketing Association of Tennessee
Pork Producers Association of Tennessee
Walking Horse Breeders and Exhibitors Association of Tennessee

TDA- Agricultural Resources Conservation Fund

This program supplies approximately \$3 million dollars annually to SCDs, RC&Ds and other organizations to cost-share with landowners on the installation of BMPs to eliminate sources of agricultural nonpoint source pollution. The source of the funds is a portion of the state's Real Estate Transfer Tax, with the controlling statute being TCA 67-4-409(l). Beginning with the FY2001 funding, each SCD has been encouraged to adopt a procedure in their respective district to evaluate the watersheds of the district, and to prioritize them so a "worst watershed first" approach to funding can begin. The current guidelines for fund usage are attached as Appendix A. Additionally, projects for informing and educating landowners, producers and managers of agricultural operations are also funded annually.

Tennessee Department Environment and Conservation – Division of Water Pollution Control (TDEC-WPC)

This agency administers the NPDES program in Tennessee, under the authority of The Water Quality Control Act, TCA 69-3-101 et seq. WPC has field staff located in eight regional environmental assistance centers that periodically respond to complaints which pertain to agricultural operations. Their focus is to determine if a point source of pollution is occurring at the site of the complaint. If the facility is a livestock operation, WPC and TDA have a Memorandum of Agreement established to solve these problems prior to the initiation of enforcement action. The goal is to educate the landowner about changes that need to be made in the operation to eliminate current problems and prevent future discharges.

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Additionally, WPC and TDA are cooperating to implement the provisions of the NPDES General Permit for CAFOs in Tennessee. TDA has approval authority for the waste handling system plans and the nutrient management plans for all CAFOs. WPC is the permitting authority.

Tennessee Valley Authority (TVA)

TVA is a wholly owned U.S. government corporation established by the TVA Act of 1933. TVA provides power to the Tennessee Valley by balancing the competing needs of power supply, flood control, navigation, land use, water quality, and recreation. They manage 480,000 acres of lakes, 11,000 miles of public shoreline, and 650 miles of navigable river, as the Nation's fifth-largest river system. TVA leases lands under their ownership to farmers for agricultural purposes. They also have established watershed teams to focus local efforts on improving the water quality of the Tennessee Valley. TVA staff regularly monitor ecological conditions of reservoirs and streams, in an effort to protect water quality without limiting the river system's use. Recent changes within the funding structure of TVA have permitted them to use their operating funds to match 319 funds.

Tennessee Wildlife Resources Agency (TWRA)

This agency is active in creating and restoring wildlife habitat across Tennessee. Projects that involve the restoration of riparian habitat can and often do include cooperating with farmers and rural landowners to establish buffer zones and other BMPs on agricultural lands.

USDA Farm Services Agency (FSA)

The Conservation Reserve Program (CRP) is administered by the FSA. The Natural Resources Conservation Service (NRCS) determines land and practice eligibility, ranks and scores offers based on environmental benefits, and develops the contract with the applicant. There have been 19 sign-ups to date, including three continuous sign-ups for "environmental" practices. In Tennessee, the environmental practices (1) grassed waterway; (2) shallow water for wildlife; (3) contour buffer strips; (4) filter strips; and (5) forested riparian buffer are automatically accepted into the program when determined to be eligible. All other practices are standard, and applicants must compete to be accepted into the program. A summary of enrollment from 1986 through program year 1999 for Tennessee is listed below:

Total acres currently enrolled in CRP 255,320

Total cropped wetland acres enrolled 4,846

Total acres enrolled under scour erosion 782

Summary by Practice:

Total acres established to INTRODUCED GRASSES (CP1) 88,603

Total acres established to NATIVE GRASSES (CP2) 1,338

Total acres established to TREES (CP3) 11,236

Total acres established to PERMANENT WILDLIFE COVER (CP4) 5,029 •

Total acres established to GRASS WATERWAYS (CP8A) 53 •

Total acres established to WILDLIFE WATER (CP9) 61

Total acres of PREVIOUSLY ESTABLISHED GRASS (CP10) 123,166

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Total acres of PREVIOUSLY ESTABLISHED TREES (CP11) 12,288 •
Total acres established to FOOD PLOTS (CP12) 93 •
Total acres established to FILTER STRIPS (CP13 or CP21) 9,287
Total acres established to WETLAND TREES (CP14) 4,056
Total acres established to FORESTED RIPARIAN BUFFERS (CP22) 136

USDA Natural Resource Conservation Service (NRCS)

NRCS is the largest conservation agency in Tennessee. They manage many programs to assist landowners with the task of improving their operations to protect the quality of Tennessee waters. The following is a listing of their conservation programs.

Environmental Quality Incentives Program

The Environmental Quality Incentives Program (EQIP) was established in the 1996 Farm Bill as a voluntary conservation program for farmers and ranchers to achieve the maximum environmental benefits per dollar expended. EQIP provides technical, financial, and educational assistance for locally identified conservation priority areas (CPAs) and natural resource concerns. Sixty-five (65) percent of EQIP funds are targeted to conservation priority areas, and thirty-five (35) percent are used to address the natural resource concerns. The USDA/Natural Resources Conservation Service administers and provides technical assistance for the EQIP.

CPAs are developed at the local level by local workgroups. CPAs may be watersheds, subwatersheds, regions, or areas of special environmental sensitivity or significant soil, water, or related natural resource concerns. During fiscal years 1997-2000, Tennessee will have funded a total of 16 different EQIP CPAs, with sizes ranging from 23,000 acres to 2,000,000 acres.

Natural resource concerns for EQIP in Tennessee include water quality, agricultural waste management, soil sustainability, grazing land, wildlife habitat, and wetlands. The NRCS State Conservationist approves CPAs and natural resource concerns based on recommendations of the State Technical Committee.

Contracts developed for EQIP are for five to ten years in length. Financial assistance can be provided for up to 75 percent of the cost of applying approved conservation practices. A brief summary of EQIP in Tennessee is listed below.

In 1997, Tennessee had six CPAs and 550 EQIP contracts. Approximately 23 of the contracts addressed waste management systems. In 1998, Tennessee had six CPAs (four existing CPAs from 1997 plus two new CPAs) and 454 EQIP contracts. Forty-three (43) contracts were for waste management systems. In 1999, Tennessee funded two new CPAs and six existing CPAs, for a total of eight CPAs and 350 EQIP contracts. More than 30 contracts addressed waste management systems. Six new CPAs and three existing CPAs are approved for fiscal year 2000. The three-year total for EQIP contracts is 1,354, with nearly 100 contracts addressing waste management systems. Going into EQIP's fourth year of operation, a total of 16 CPAs have been funded in Tennessee. The following is a breakdown of locations by Tennessee NRCS administrative divisions:

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WEST TENNESSEE	MIDDLE TENNESSEE	EAST TENNESSEE
Wolf	Lower Cumberland/Red	Upper Cumberland
Loosahatchie		Nolichucky
Hatchie	Duck	Hiwassee-Ocoee-
Forked Deer	Elk-Shoal	Conasauga
Obion	Upper Harpeth	Beaver Creek
	Round Lick Creek	Pond Creek
	Collins/Rocky	Sequatchie

The Conservation Buffer Initiative

In April 1997, the USDA launched the National Conservation Buffer Initiative under the leadership of the NRCS. With this initiative, USDA has pledged to help landowners install 2 million miles of conservation buffers by the year 2002. Conservation buffers are a common-sense way to protect water quality. Buffers simply are small areas or strips of land in permanent vegetation, designed to intercept pollutants and manage other environmental concerns. These areas protect soil, improve air and water quality, enhance fish and wildlife habitat, conserve biodiversity, and beautify the landscape. Types of buffers used in Tennessee include riparian forest buffers, filter strips, grassed waterways, contour grass strips, field borders, alley cropping, and shallow water areas for wildlife.

The Core 4 Program

Core 4 is a new program of NRCS, where emphasis is placed on installing 4 key BMPs, which are conservation tillage, conservation buffers, nutrient management, and pest management.

Grazing Lands Conservation Initiative

The Grazing Lands Conservation Initiative (GLCI) in Tennessee is a program to enhance grazing lands while improving the environment and economy. In FY 2000, the NRCS and partners planned six demonstration farms in Tennessee. The Tennessee Agriculture Extension Service assisted with planning assistance, and the Tennessee Department of Agriculture assisted with financial assistance. These farms are used to demonstrate rotational grazing, weed management, pasture utilization, fencing techniques, windbreak technology, and alternative water sources. The farms are located in the following counties: Chester, Franklin, Greene, Jefferson, and Wilson.

Conservation Technical Assistance Program (CTAP)

The CTAP is the basis of the NRCS mission to conserve, sustain, and improve Tennessee's private lands. NRCS staff work with individual landowners, communities, conservation districts, units of state and local governments, and other partners to meet their goals for resource stewardship and assisting individuals to comply with state and local requirements. The purpose of the CTAP is to assist interested individuals and units of governments in planning and implementing conservation systems. These systems reduce erosion, improve soil and water quality, improve and conserve wetlands, enhance fish and wildlife

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habitat, improve air quality, improve pasture and hayland conditions, reduce flooding, and improve woodlands.

The major objectives of the CTAP are to:

Assist agricultural producers to comply with the highly erodible land (HEL) and wetland (Swampbuster) provisions of the 1985 Food Security Act as amended by the Food, Agriculture, Conservation and Trade Act of 1990, the Federal Agriculture Improvement and Reform Act of 1996, and wetlands requirements of Section 404 of the Clean Water Act.

Provide technical assistance to participants in USDA cost share and conservation incentives programs.

Collect, analyze, interpret, display, and disseminate information about the condition and trends of Tennessee's soil and other natural resources so that people can make good decisions about resource use and public policies for resource conservation.

Watershed and River Basin Planning and Installation Public Law 83-566 (PL566)

Technical and financial assistance is provided in cooperation with local sponsoring organizations, state, and other public agencies to voluntarily plan and install watershed-based projects on private lands. The program empowers local people or decision-makers, builds partnerships, and requires local and state funding contributions. The purposes of watershed projects include watershed protection, flood prevention, water quality improvements, soil erosion reduction, rural, municipal and industrial water supply, irrigation water management, sedimentation control, fish and wildlife habitat enhancement, and create and restore wetlands and wetland functions.

Wildlife Habitat Incentives Program (WHIP)

WHIP is a voluntary program for landowners that want to develop and improve wildlife on private lands. Technical and cost-sharing assistance is available to help establish and improve fish and wildlife habitat.

WHIP's goals specific for Tennessee are to restore or enhance critical upland and wetland wildlife habitat, habitat for threatened and endangered species, and riparian habitats beneficial to fish and aquatic species.

Special emphasis is placed on improving native grassland and early successional shrub habitats across the state. The establishment of native warm season grasses, riparian buffers, and field borders are the most common practices being applied through WHIP.

Tennessee WHIP funds have been used to restore over 8,000 acres of native warm season grasses, 200 acres of riparian buffers, 70 acres of wetlands, and over 3,000 acres benefiting threatened and endangered species.

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During the two-year pilot of the Wildlife Habitat Incentives Program, 250 Tennessee landowners enrolled 10,600 acres of private land and received over \$850,000 for wildlife habitat restoration and enhancement. Over 95 percent of the enrollees opted for the maximum ten-year contract period.

University of Tennessee, Institute of Agriculture (UTIA)

The College of Agricultural Sciences and Natural Resources, the Agricultural Experiment Station, and the Agricultural Extension Service, including Ag and Biosystems Engineering, collectively known as the Institute of Agriculture, provide instruction, research, and public service in agriculture and related areas to students, producers, and consumers in Tennessee and secondarily to the region, nation, and world. The Institute contributes to improving the quality of life, increasing agricultural productivity and income, protecting the environment, promoting the economic well-being of families, and conserving natural resources for all Tennesseans. The clientele served includes students, farmers, homemakers, 4-H and other youth, agribusiness, state and federal governmental agencies, consumers, and the general public.

Agricultural Experiment Stations

The Experiment Station exists to develop technology which will enhance the efficiency of agricultural, forest and ornamental industries, improve quality of rural life, and conserve rural environmental resources of soil, water, air, and wildlife. This is accomplished by active research programs conducted by approximately 130 faculty members attached to eight departments on the Institute of Agriculture Campus and in two departments in the College of Human Ecology. In addition to the campus-based programs, eleven experimental farms called Branch Experiment Stations located in three grand divisions of the state are utilized, as shown on the following map.



Agricultural Extension Service

These programs are oriented toward improving the profitability and sustainability of Tennessee agriculture, emphasizing the efficient use of natural resources, improving the management and therefore the profitability of the state's forest resources, teaching waste management practices to protect the environment, improving water quality in homes and on farms, and training producers to improve farm management and combine production management and marketing into a complete plan to improve profitability of Tennessee agriculture.

Agriculture and Biosystems Engineering

Biosystems engineers are also responsible for technologies that improve the quality of rural life. They assist producers with environmental enhancement and

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natural resource preservation, such as identifying sources of water contamination and ways individual producers can maintain or restore the quality of the water that they and their animals drink or that they apply to their crops. Rural and urban communities also benefit from such water quality improvements. Waste reduction and utilization are other biosystems engineering concerns, as are soil erosion, pesticide application, wetlands preservation, on-site sewage treatment, and other topics not always directly associated with agriculture. By improving the efficiency of production systems and the quality of rural life, UT biosystems engineers positively impact the lives of all Tennesseans as well as folks in the surrounding region and throughout the country.

Tennessee Farm Bureau

Farm Bureau membership is represented on numerous water quality committees and task force assignments during the year. The Public Affairs Department provides assistance to the agriculture representatives on these committees. In some cases a staff person actually serves on the committee. These special committees are designed to solve problems or improve conditions in our state. Examples of committees include:

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Air Pollution Control Board	319 Nonpoint Source Management Group Solid Waste Disposal Control Board
Council for Excellence in Higher Education	Source Water Assessment Program Committee
Governor's Interagency Wetlands Committee and Technical Working Group	Tennessee Municipal Solid Waste Advisory Panel
Greenbelt Advisory Committee	Water Quality Control Board
Natural Resources Conservation Service Technical Advisory Committee	West Tennessee River Basin Authority

Policy Development

A state resolutions committee consisting of county presidents, women's committee chairmen and state board members annually review Farm Bureau policy and analyze it recommending policy changes based on issues discussed at the county and district level. The final step requires approval from the delegate body during the Tennessee Farm Bureau Annual Meeting. The policy is then utilized by the Tennessee Farm Bureau as the organization voices the farmer's concerns at the local, state and national level.

Policy Implementation

At the state level each County Farm Bureau selects a State Legislative Committee. Members receive the Legislative Alert on a weekly basis while the Tennessee General Assembly is in session. Committee members make contacts with state legislators on priority agriculture issues.

Tennessee Association of Conservation Districts (TACD)

TACD was organized to advance the programs of the Soil Conservation Districts and promote the welfare of the people of Tennessee through the work of Conservation Districts. TACD encourages maximum cooperation between Districts and agencies of local, state and federal government in the development and conservation of renewable natural resources. TACD also encourages cooperation among Districts, individuals and various government agencies interested in resource development, which promotes an educational and informational program of soil and water conservation and watershed/flood prevention.

The Nature Conservancy (TNC)

Through the Chattanooga-based Southern Appalachian Rivers Initiative, TNC is working with farmers and other landowners to prevent pollution of the Clinch, Powell, Watauga, and Conasauga Rivers, which contain North America's highest concentration of endangered fresh water mussels and fish. In middle Tennessee, the Conservancy is working to protect the Duck and the upper Harpeth Rivers. In west Tennessee, the Wolf and Hatchie Rivers, as well as the Mississippi River itself, are the focus of Conservancy efforts.

Soil Conservation Districts (SCDs)

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Each of Tennessee's 95 counties has a Soil Conservation District Board of Supervisors, organized under the authority of TCA 43-14-201 et seq. Each board is comprised of five members, three elected members and two appointed members. The mission of the SCD board is to investigate the causes and effects of soil erosion in their district and seek cooperative relationships with other agencies and programs to eliminate all soil erosion in the district. The State Soil Conservation Committee gives guidance to the 95 districts. All technical assistance for BMP implementation is provided by the USDA-NRCS personnel in each District.

State Soil Conservation Committee (SSCC)

This committee is established under the authority of TCA 43-14-203 et seq., and consists of seven (7) members. The functions and responsibilities of the SSCC are to approve the appointments of board members to each SCD board, to offer assistance to the SCDs in carrying out their programs, to keep the SCDs organized and to facilitate the exchange of information between the SCDs, and to secure the cooperation of federal programs. Additionally, the SSCC approves the formation of watershed districts in Tennessee.

Other Funding Sources**TDEC-Division of Community Assistance (DCA)**

The State Revolving Fund (SRF) is managed by TDEC-DCA. This agency has expressed the desire to expand its funding to nonpoint source projects. Several meetings have been held between the SRF Program, WPC, and TDA-NPS Program to discuss directing SRF funding towards nps issues. The possibility exists to begin to provide a loan program to landowners for the installation of certain BMPs.

County and City Governments

Based on proposed rules of the EPA, the trading of point and nonpoint sources may become a reality in the near future. In this event, city and county governments that own point sources on 1998 303(d) listed waters may determine that a correction of the nonpoint source problems in the watershed is more cost effective than the addition of advanced treatment technology. This process is likely to involve the installation of BMPs on agricultural lands, and could be an additional source of revenue.

Additional funding sources for environmental projects are listed in the Catalog of Federal Funding, which can be found at: www.aspe.os.dhhs.gov/cfda



CURRENT 319 PROJECTS

The following is a list of current and proposed 319 projects for Agriculture.

Grant Yr.	Project Title	Location
FY-93	Clinch Powell RC&D	Hancock Co.
FY-95	Nolichucky River/Bent Creek	NE TN
	Farm*A*Syst/Home*A*Syst	Statewide
FY-96	Upper Clinch River	Hancock Co.
	Big South Fork- Clear Fork	Fentress Co.
	Forked Deer- Stokes Creek	Crockett Co.
	Pesticide Storage and Collection	Statewide
	Red River- Sulphur Fork Creek	Robertson Co.
FY-97	Collins River- Caney Fork Heavy Use Areas	Middle TN
	Wetlands for Pesticide Control	Middle TN
FY-98	Farm*A*Syst/Home*A*Syst CD Rom	Statewide
	Pesticide Collection Program	Statewide
	Grant Pool	Statewide
FY-99	Grant Pool	Statewide
FY-99UWA	Clinch River Swan Island/Briar Creek	Hancock Co.
	Red River-Sulphur Fork Creek	Robertson Co.
	Little River- Ellejoy Creek	Blount Co.

AREAS FOR PROGRAM EXPANSION

Development of an Agriculture Working Group. As reflected in the milestones of this chapter, TDA-NPS Program will seek to facilitate a series of meetings with all agencies listed above and any concerned citizen to begin to develop a water quality strategy for agriculture in Tennessee.

Emphasis on CORE 4. TDA-NPS Program will cooperate with NRCS in their efforts to establish nutrient management, pest management, buffers and conservation tillage practices on all farms where needed.

Begin CREP Program. Work with USDA-FSA to establish a Conservation Reserve Enhancement Program in Tennessee.

Producer and Commodity Group Participation. TDA-NPS Program will work to enlarge the partnership base by seeking to involve all agriculture commodity and livestock producer groups in Tennessee.



WATER QUALITY MONITORING & ASSESSMENT

319 funding has been granted to TDEC-WPC for statewide monitoring efforts, in support of their five-year, rotational watershed monitoring approach. All waterbodies in Tennessee will be assessed through this continuous program, which will result in more precise information about what stream segments are impaired and where they are located. This will result in an increase in efficiency of TDA's grant programs.

319 funding has also been given to TDEC-WPC for monitoring efforts in the 11 UWA watersheds. This funding will provide pre- and post-BMP monitoring, so the effectiveness of BMP installations can be measured in terms of water quality improvements.

ENFORCEMENT MECHANISMS

Concentrated Animal Feeding Operations (CAFOs). In 1998, TDEC and TDA issued a Strategy for Animal Feeding Operations. In this strategy, a process was created for permitting certain CAFOs, either with an individual NPDES permit, or through a general permit. This permitting system allows for enforcement action to be taken if the provisions of the permit are violated, through the authority of TCA 69-3-101 et seq. The Strategy and associated permits include requirements that all new or expanding facilities be designed and operated so that there is no discharge to waters of the state.

TDA and TDEC have in place a Memorandum of Agreement (MOA) concerning agricultural related complaint processing. This MOA states that if a complaint is received by TDEC personnel, then, prior to initiating an enforcement action, TDEC personnel contact TDA. A site visit is made by the appropriate Regional Administrator, who contacts the land owner with the problem, and seeks to convince the landowner to voluntarily participate in the TDA cost-share programs. This action will correct any problems that may exist and make any enforcement action by TDEC unnecessary.

MEASURES OF SUCCESS

- The Agricultural Working Group will meet at least semiannually to formulate the state's water quality strategy.
- BMPs funded through TDA programs, as required, will be installed in watersheds that are on the 303(d) List, with the intention of removing waters from the List, or
- BMPs funded through TDA programs will be installed in watersheds to eliminate pollution sources on waterbodies not yet listed, to prevent them from ever being included on the 303(d) List.



MILESTONES

Long Term Goal 1.

Hold regularly scheduled meetings with stakeholders, to create new partnerships, strengthen existing partnerships and to foster greater trust, commitment and accountability.

- **Action 1:** The Agriculture Working Group (AWG) will meet semi-annually.
Lead: TDA-NPS Program
Key partners: TDEC-WPC; TNRC&D; USDA-NRCS; USDA-FSA; UTIA; SCDs; SSSC; TACD; TNRC&D; TDEC-WPC; TFB
Year(s): 2001-2005
- **Action 2:** Increase AWG membership by one member each year.
Lead: TDA-NPS Program
Key partners: TDEC-WPC; TNRC&D; USDA-NRCS; USDA-FSA; UTIA; SCDs; SSSC; TACD; TNRC&D; TDEC-WPC; TFB
Year(s): 2001-2005
- **Action 3:** Establish the AWG mission statement, a list of collective capabilities, and priorities for funding.
Lead Agencies: AWG and TDA-NPS Program
Year(s): 2001-2005
- **Action 4:** Seek to develop a interagency water quality strategy for Tennessee Agriculture
Lead: TDA; USDA-NRCS; USDA-FSA; UTIA; TFB
Key Partners: SCDs; SSSC; TACD; TNRC&D; TDEC-WPC
Year(s): By 2005
- **Action 5:** Consider a system of certification for third party animal waste haulers in Tennessee.
Lead: TDEC-WPC and TDA-NPS Program
Key Partners: USDA-NRCS; TFB; UTIA; TACD; TCL; Egg and Poultry Board
Year(s): 2001
- **Action 6:** Form an advisory team from poultry growers, integrators and agricultural agencies.
Lead Agency: TDA-NPS Program
Key Partners: Egg and Poultry Board; UTIA; USDA-NRCS; TDEC-SWM
Year: 2000

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- **Action 7:** Develop information concerning the economy of large scale composting as a value-added residual product.

Lead Agency: AWG
Key Partners: Egg and Poultry Board; TDEC-SWM
Year: 2001
- **Action 8:** If feasible, seek funding sources for construction of composting facility (as mentioned in Action 7).

Lead Agency: TDA-NPS Program
Key Partners: Egg and Poultry Board; UTIA; USDA-NRCS; TDEC-SWM
Year: 2002
- **Action 9:** Meet with TDEC-DCA to determine feasibility of establishing a loan fund for BMPs.

Lead: TDA-NPS Program, TDEC-DCA
Key Partners:
Year: 2000
- **Action 10:** If feasible, establish the loan fund with a portion of the State Revolving Fund

Lead: TDEC-DCA
Key Partners:
Year: 2001
- **Action 11:** Make all landowners aware of the loan program, if established.

Lead: TDA-NPS Program
Key Partners: TDEC-DCA
Year(s): 2001
- **Action 12:** Determine all sources of funding available for landowners

Lead: TDA-NPS Program
Key Partners: AWG
Year: 2001-2005
- **Action 13:** Develop Memoranda of Agreement with key federal agencies to improve programmatic consistency.

Lead: TDA-NPS Program
Key Partners: All federal agency partners
Year(s): 2001-2005

Long Term Goal 2.

Fully implement all developed TMDLs for nonpoint sources in compliance with existing regulations, policies, or agreements by 2015.

Refer to Chapter 1.11, TMDL Implementation for specific action items related to this Long Term Goal.

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Long Term Goal 3.

Restore all waters impaired by nonpoint sources that are listed on the 1998 303(d) List to the condition of fully supporting their designated uses by 2015, in cooperation with local, state and federal partners.

- **Action 1:** Install BMPs so that 20% of the streams impaired due to agriculture on the 1998 303(d) List will support their designated uses.
Lead: TDEC-WPC; TDA; USDA
Key partners: SCDs; TACD; TNRC&D; TVA; UTIA; Local government
Year(s): 2005
- **Action 2:** Install BMPs so that 60% of the streams impaired due to agriculture on the 1998 303(d) List will support their designated uses.
Lead: TDEC-WPC; TDA; USDA
Key partners: SCDs; TACD; TNRC&D; TVA; UTIA; Local government
Year(s): 2010

Long Term Goal 4.

Beginning in 2006, through regulatory and non-regulatory means, prevent previously unlisted waters from being included on the 303(d) List because of nonpoint source impairments.

- **Action 1:** Implement BMPs on streams not listed on the 1998 303(d) List
Lead: TDA-NPS Program
Key partners: UTIA; TNRC&D; Local government; TDA-ARC; SCDs; USDA-NRCS
Year(s): 2001-2005
- **Action 2:** Gather information from existing CREP state programs
Lead Agency: TDA-NPS Program
Key Partners: USDA-FSA; USDA-NRCS
Year: 2001
- **Action 3:** Establish required match funding for CREP
Lead Agency: TDANPS
Key Partners: USDA-FSA; USDA-NRCS
Year: 2001
- **Action 4:** Develop Tennessee CREP policies, if necessary
Lead : TDA-NPS Program
Key Partners: USDA-FSA; USDA-NRCS; TDA; USDA-FSA
Year: 2002
- **Action 5:** Finalize CREP Agreement
Lead: TDA-NPS Program
Key Partners: USDA-FSA; USDA-NRCS; TDA; USDA-FSA
Year: 2002

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- **Action 6:** Develop and distribute information to landowners and citizens about the CREP program in Tennessee.
Lead: TDA-NPS Program
Key Partners: USDA-FSA; USDA-NRCS; TDA; USDA-FSA
Year: 2003
- **Action 7:** All new and expanding CAFO operations shall comply with state permit provisions, as required.
Lead: TDA-NPS program
Key Partners: TDEC-WPC, USDA-NRCS, UTIA
Year(s): 2001

Long Term Goal 5.

Improve the knowledge of stakeholders and citizens concerning the origins, magnitude, and prevention of nonpoint source pollution, and how to prevent it.

- **Action 1:** Develop and distribute educational material concerning Agriculture issues in increasing amounts each year.
Lead: TDA-NPS Program
Key partners: AWG
Year(s): 2001-2005
- **Action 2:** Provide funding to agriculture related demonstration projects annually.
Lead: TDA-NPS Program
Key partners: AWG
Year(s): 2001-2005
- **Action 3:** Provide educational information concerning Agriculture on the TDA-NPS web page.
Lead: TDA-NPS
Year(s): 2001
- **Action 4:** Perform a review of all existing publications, and update them as necessary
Lead: TDA-NPS Program
Key Partners: USDA-NRCS; USDA-FSA; TVA; UTIA; TACD; Universities; Local government
Year(s): 2000-2002
- **Action 5:** Continually fund the creation of relevant and high quality informational materials to emphasize the importance of preventing and eliminating nonpoint pollution.
Lead: TDA-NPS Programs
Key Partners: USDA-NRCS; USDA-FSA; TVA; UTIA; TACD; Universities; Local government
Year(s): 2000-2015 and beyond

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- **Action 6:** Seek to develop projects to distribute, create, or adapt informational materials addressing the proper design, operation and site selection of animal waste facilities.

Lead: TDA-NPS Programs

Key Partners: USDA-NRCS; USDA-FSA; TVA; UTIA; TACD; Universities; Local government

Year(s): 2000-2005
- **Action 7:** Use the TDA-NPS Program web page to make all publications and other agricultural nonpoint pollution related information widely available to all interested persons.

Lead: TDA-NPS Program

Key Partners: USDA-NRCS; USDA-FSA; TVA; UTIA; TACD; Universities; Local government

Year(s): 2000-2005

Long Term Goal 6.

Through the process of continuous improvement, routinely assess all programmatic functions of the TDA-NPS Program in order to maximize efficiency, decrease the bureaucratic burden and increase the numbers of participants in the program.

- **Action 1:** Investigate other funding sources such as The Nature Conservancy, Brownfields Program, as well as EPA.

Lead: TDA-NPS Program

Key partners: The Nature Conservancy; US EPA

Year(s): 2001-2005
- **Action 2:** Provide responses to all project related inquiries from grantees within three business days of the request.

Lead: TDA-NPS Program

Year(s): 2001-2005
- **Action 3:** Work with grantees to achieve timely submittal of all progress reports 100% of the time.

Lead: TDA-NPS Program

Year(s): 2001-2005
- **Action 4:** Develop a Priority Ranking System for project review.

Lead: TDA-NPS Program

Key Partner: URWG

Year(s): 2001-2005
- **Action 5:** Request feedback from partners annually to assess the quality of the services provided by the TDA-NPS Program.

Lead: TDA-NPS Program

Year(s): 2001-2005
- **Action 6:** Fund at least five demonstration projects annually which will inform

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agricultural producers about how to eliminate or prevent polluted runoff from their operations.

Lead: TDA-NPS Program

Key Partners: SCD; UTIA; TVA; USDA-NRCS

Year(s): 2000-2015 and beyond

Long Term Goal 7

Use the maximum allowable percentage of funding annually to assist partners with water quality monitoring and assessment, for the duration of the 319 program.

See Chapter 1.9 for action items related to water quality monitoring for the TDA-NPS Program.